

US Serial No. 10/524377
Page 8 of 22

Remarks:

Regarding the rejection of claims 1, 2, 15, 16, 25, 27, 29, 31, 32, 37-39, and 158-164 under 35 USC 112:

The applicant respectfully traverses the Examiner's objection to the language of claims 1 and 39 which refer to "... wherein the composition exhibits residual antimicrobial performance after at least 1 rinse with water." The Examiner's attention is respectfully directed to applicant's "Table 4" which (in the published application) reads as follows:

TABLE 4

Composition (amounts are on "active basis"; 75% ethanol; balance in water)	Log reduction v. <i>Salmonella</i> <i>choleraesuis</i>		Log reduction v. <i>Staphylococcus aureus</i>	
	1 rinse	4 rinses	1 rinse	4 rinses
Ex. 16 (3% Polymer (2A ¹), 1% Acid ⁶)	4.81	4.28	0.31	NT
Ex. 17 (3% Polymer 2B ²), 1% Acid)	5.1	4.22	0	NT
Ex. 18 (3% Polymer (7 ³), 1% Acid)	5.4	3.8	0.07	NT
Ex. 19 (3% Polymer (6 ⁴), 1% Acid)	6.4	6.26	0.73	NT
Ex. 20 (3% Polymer (2A))	0	NT	0.26	NT
Ex. 21 (3% Polymer (2B))	0	NT	0.25	NT
Ex. 22 (3% Polymer (7))	0	NT	0.13	NT
Ex. 23 (3% Polymer (6))	0.71	NT	0	NT
Control-log recovery	6.4		6.28	

US Serial No. 10/524377
Page 9 of 22

TABLE 4-continued

Composition (amounts are on "active basis"; 75% ethanol; balance is water)	Log reduction v. <i>Rhinovirus</i>		Log reduction v. <i>Rhinovirus</i>	
	1 rinse	4 rinses	1 rinse	4 rinses
Ex. 16 (3% Polymer (2A), 1% Acid)	2.34	2.17		
Ex. 17 (3% Polymer (2B), 1% Acid)	>4.17	>4.17		
Ex. 18 (3% Polymer (7), 1% Acid)	>4.17	>4.17		
Ex. 19 (3% Polymer (6), 1% Acid)	>4.17	>4.17		
Ex. 20 (3% Polymer (2A))	1	NT		
Ex. 21 (3% Polymer (2B))	0	NT		
Ex. 22 (3% Polymer (7))	2	NT		
Ex. 23 (3% Polymer (6))	>4.17	NT	>5.17	>5.17
Control-log recovery	5.67		6.67	6.67

¹Polymer (2A) = vinyl pyrrolidone/vinyl acetate (30/70; supplied as 50% active in ethanol)

²Polymer (2B) = vinyl pyrrolidone/vinyl acetate (50/50; supplied as 50% active in isopropanol)

³Polymer (7) = methyl vinyl ether/maleic acid ethyl half ester (supplied as 50% active in ethanol)

⁴Polymer (6) = vinyl pyrrolidone/acrylic acid (50/50; supplied as 100% active)

⁵Acid = citric acid

As is believed to be evident from the foregoing table as well as the discussion in the preceding paragraph ([0148]) appropriate basis for this claim language appears to be exant.

Reconsideration of the propriety of the rejection and its withdrawal is respectfully requested.

Regarding the rejection of claims 1, 2, 15, 16, 25, 27, 29, 31, 32, 37-39 and 158-164 under 35 USC 102(b) and/or under 35 USC 103(a) in view of WO 00/27271 (hereinafter "WO271"):

The applicant respectfully traverses the rejection of the foregoing claims in view of the WO271 reference.

Prior to discussing the relative merits of the Examiner's rejection for "anticipation", the applicant points out that unpatentability based on "anticipation" type rejection under 35

US Serial No. 10/524377
Page 10 of 22

USC 102(b) requires that the invention is not in fact new; see the applicant's remarks in the prior *Amendment*.

With respect now to Examiner's rejection as to "obviousness" over the prior art, the undersigned reminds the Examiner that the determination of obviousness under § 103(a) requires consideration of the factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1 [148 USPQ 459] (1966): (1) the scope and content of the prior art; (2) the differences between the claims and the prior art; (3) the level of ordinary skill in the pertinent art; and (4) secondary considerations, if any, of nonobviousness. *McNeil-PPC, Inc. v. L. Perrigo Co.*, 337 F.3d 1362, 1368, 67 USPQ2d 1649, 1653 (Fed. Cir. 2003). There must be some suggestion, teaching, or motivation arising from what the prior art would have taught a person of ordinary skill in the field of the invention to make the proposed changes to the reference. *In re Fine*, 837 F.2d 1071, 1075, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988). But see also *KSR International Co. v. Teleflex Inc.*, 82 USPQ2D 1385 (U.S. 2007).

A methodology for the analysis of obviousness was set out in *In re Kotzab*, 217 F.3d 1365, 1369-70, 55 USPQ2d 1313, 1316-17 (Fed. Cir. 2000). A critical step in analyzing the patentability of claims pursuant to section 103(a) is casting the mind back to the time of invention, to consider the thinking of one of ordinary skill in the art, guided only by the prior art references and the then-accepted wisdom in the field. Close adherence to this methodology is especially important in cases where the very ease with which the invention can be understood may prompt one "to fall victim to the insidious effect of a hindsight syndrome wherein that which only the invention taught is used against its teacher."

It must also be shown that one having ordinary skill in the art would reasonably have expected any proposed changes to a prior art reference would have been successful. *Amgen, Inc. v. Chugai Pharmaceutical Co.*, 927 F.2d 1200, 1207, 18 USPQ2d 1016, 1022 (Fed. Cir. 1991); *In re O'Farrell*, 853 F.2d 894, 903-04, 7 USPQ2d 1673, 1681 (Fed.

US Serial No. 10/524377
Page 11 of 22

Cir. 1988); *In re Clinton*, 527 F.2d 1226, 1228, 188 USPQ 365, 367 (CCPA 1976). "Both the suggestion and the expectation of success must be founded in the prior art, not in the applicant's disclosure." *In re Dow Chem. Co.*, 837 F.2d 469, 473, 5 USPQ2d 1529, 1531 (Fed. Cir. 1988).

With regard first to the "anticipation" rejection, the applicant points out that WO271 discloses somewhere within its 133 pages of content virtually every technically known and/or commercially relevant raw material which may be used in a hard surface treatment composition. Yet, the applicants assert that WO271 fails to disclose the currently claimed invention with "... sufficient precision and detail to establish that the subject matter existed in the prior art ...". With regard to the actual compositions taught by WO271, these are recited at pages 3 and 4 as follows:

US Serial No. 10/524377
Page 12 of 22

In one aspect, the present invention encompasses hard surface cleaning compositions, preferably for use with the cleaning pads and/or cleaning implements described herein, comprising:

- (a) optionally, from about 0.001% to about 0.5% by weight of the composition of surfactant, preferably selected from the group consisting of alkylpolysaccharides, alkyl ethoxylates, alkyl sulfonates, and mixtures thereof;
- (b) optionally, hydrophilic polymer, preferably less than about 0.5% by weight of the composition;
- (c) optionally, organic solvent, preferably from about 0.25% to about 7% by weight of the composition and preferably having a boiling point of from about 120°C to about 180°C;
- (d) optionally, from about 0.01% to about 1% by weight of the composition of mono- or polycarboxylic acid;
- (e) optionally, from about 0.01% to about 1% by weight of the composition of odor control agent, preferably cyclodextrin;
- (f) optionally, a source of peroxide, preferably from about 0.05% to about 5% by weight of the composition and preferably selected from the group consisting of benzoyl peroxide, hydrogen peroxide, and mixtures thereof;
- (g) optionally, from about 0.001% to about 0.1% by weight of the composition of thickening polymer;
- (h) aqueous solvent system, preferably at least about 80% by weight of the composition;
- (i) optionally, suds suppressor;
- (j) optionally, from about 0.005% to about 0.2% by weight of the composition of a perfume comprising:
 - (i) optionally, from about 0.05% to about 90% by weight of the perfume of volatile, hydrophilic perfume material;
 - (ii) optionally, at least about 0.2% by weight of the perfume of volatile, hydrophobic perfume material;
 - (iii) optionally, less than about 10% by weight of the perfume of residual, hydrophilic perfume material;
 - (iv) less than about 10% by weight of the perfume of residual, hydrophobic perfume material;
- (k) optionally, a detergent adjuvant, preferably selected from the group consisting of detergency builder, buffer, preservative, antibacterial agent, colorant, bleaching agents, chelants, enzymes, hydrotropes, corrosion inhibitors, and mixtures thereof.

US Serial No. 10/524377
Page 13 of 22

Saliently it is clear to see that the actual alleged "teaching" of this invention recognizes *only* water as an essential constituent, and all other constituents are considered to be "optional." This, is it fair to say that WO271 discusses the identity of various potentially useful individual constituents, yet WO271 fails to specifically anticipate the currently claimed invention.

Perhaps a more pertinent portion of WO271 is found in the paragraphs at pages 84 and 85 which discuss various constituents which may be used to impregnate a "wipe" article from which a liquid treatment composition is released. For sake of convenient reference these are reproduced here:

To provide added convenience general purpose pre-moistened wipes can be attached to a mop head with a handle, an example of which is shown in Figures 5, 7, 7a and 8, which are described hereinafter. In such an execution the pre-moistened wipe is ideal for light cleaning and disinfecting. Since the amount of solution released from the wipe is much more limited than that delivered through conventional cleaning, very effective anti-microbial systems need to be used. In one such composition the general purpose and floor pre-moistened wipe can contain a solution comprising an effective level of detergent surfactant and citric acid at about 0.5% to about 5%. To boost the efficacy of such solution hydrogen peroxide or a source of hydrogen peroxide can be added at about 0.5% to about 3%. An alternative composition could use quaternary ammonium salts such as dioctyl dimethyl ammonium chloride, didecyl dimethyl ammonium chloride, C₁₂, C₁₄ and C₁₆ dimethyl benzyl ammonium chlorides, at levels greater than about 0.05%. Such compounds have been found to often interfere with the benefits of the preferred polymers. While these solutions (e.g., those comprising sources of hydrogen peroxide, quaternary ammonium compounds and citric acid) deliver a high degree of anti-microbial efficacy they can leave a filmy surface because they are solids and need to be used at high levels.

US Serial No. 10/524377
Page 14 of 22

Better end result performance is delivered by compositions containing primarily the organic cleaning solvents described above at from about 0.25% to about 10%, more preferably about 0.5% to about 5% to provide cleaning and wetting, in combination with non-volatile buffers described above. Low levels of non-volatiles including hydrophilic polymer can advantageously be incorporated such that the total level of non-volatiles excluding perfume and antimicrobials, is from about 0% to about 0.08%, more preferably from about 0% to about 0.055%, most preferably from about 0% to about 0.025%. In a preferred embodiment, the combination of surfactants, wetting polymers, buffers and hydrophobic organic cleaning solvents are chosen so as to provide a surface tension reduction from water (72 dynes/cm) of more than about 25 dynes/cm, more preferably more than 30 dynes/cm, most preferably more than 35 dynes/cm. Optionally, low levels of more effective anti-microbial ingredients such as bronopol, hexitidine sold by Angus chemical (211 Sanders Road, Northbrook, Illinois, USA), Kathon®, 2-((hydroxymethyl)(amino)ethanol, propylene glycol, sodium hydroxymethyl amino acetate, formaldehyde, and glutaraldehyde, quaternary ammonium salts such as dioctyl dimethyl ammonium chloride, didecyl dimethyl ammonium chloride, C12, C14 and C16 dimethyl benzyl (Bardac® 2280 and Barquat® MB-80 sold by Lonza), dichloro-s-triazinetriene, trichloro-s-triazinetriene, and more preferably 1,2-benzisothiazolin-3-one sold by Avicia Chemicals, chlorhexidine diacetate sold by Aldrich-Sigma, sodium pyrrithione and polyhexamethylene biguanide at about 0.001% to about 0.1%, more preferably from about 0.005% to about 0.05% are added for preserving and/or providing antimicrobial benefits.

A review of the foregoing clearly reveals that in each of the preferred compositions, specific "anti-microbial" systems need to be present in order to provide an antimicrobial benefit. Such "anti-microbial" systems may be (i) hydrogen peroxide, (ii) quaternary ammonium compounds or (iii) commercially available preservative constituents may be added in minor amounts. The presence of many of these however are also indicated to be problematic and discouraged as WO271 specifically notes in the above passage that:

US Serial No. 10/524377
Page 15 of 22

added at about 0.5% to about 3%. An alternative composition could use quaternary ammonium salts such as dioctyl dimethyl ammonium chloride, didecyl dimethyl ammonium chloride, C₁₂, C₁₄ and C₁₆ dimethyl benzyl ammonium chlorides, at levels greater than about 0.05%. Such compounds have been found to often interfere with the benefits of the preferred polymers. While these solutions (e.g., those comprising sources of hydrogen peroxide, quaternary ammonium compounds and citric acid) deliver a high degree of anti-microbial efficacy they can leave a filmy surface because they are solids and need to be used at high levels.

As to the function of the polymers which are *optionally* included in the WO271 formulation, WO271 makes no mention that they are to be selected on the basis of their potential ability to form a complex with at least one organic acid, which is a hallmark of the applicant's present invention. As the present applicant notes, in his published application (at para. [0037]):

form complexes with at least one organic acid. Together, the organic acid:anionic surfactant:polymer combination of the present invention provide enough active to be released to kill bacteria (gram negative and positive) and viruses (at a log reduction level of 1 log reduction or more) within a very short contact time (30 seconds) and maintain enough active in reservoir of the film to continue to be released over repeated microbial challenges over a period of time.

Importantly, WO271 also makes no mention that the polymer and organic complex itself is responsible for the antimicrobial efficacy. At its most relevant passage, WO271 mentions only that:

US Serial No. 10/524377
Page 16 of 22

An important benefit of the wet wipes of the present invention is the fact that judicious selection of the antimicrobial actives combined with the lack of a rinsing step required by the invention, and lack of a buffing step (consumers are in the habit of cleaning floors and countertops to a wet end result), allow for residual disinfectancy benefits. By residual disinfectancy, it is meant that the residual antimicrobial actives delivered by the wet wipe onto the hard surface at least about 99.9% cidal against bacteria and other microorganisms for a period of from about 8 to about 72 hours, more preferably from about 12 to about 48 hours, most preferably at least about 24 hours. While residual disinfectancy can be achieved using conventional approaches (i.e., spray product with a paper towel, sponge, rag, etc.), the premoistened wipe has the added convenience of delivering the cleaning and disinfectancy benefits in one package. The residual properties result from a combination of low vapor pressure and high cidal efficacy of the antimicrobial actives associated with the compositions of the present invention. Those skilled in the art will recognize that residual disinfectancy benefits, if present in the context of compositions comprising a very low level of surfactant, are even more easily achieved in compositions wherein the level of surfactants is raised. Residual disinfectancy, in addition to excellent end result, can provide consumers with reassurance as to the effectiveness of the wet wipe. Such reassurance is most important for tasks such as cleaning of surfaces that are particularly susceptible to harboring germs, most particularly counter tops, stove tops, appliances, sinks, furniture, showers, glass and other fixtures that are near or inside the kitchen or bathroom(s).

Rather, as set out in the foregoing passage, any antimicrobial activity of the WO271 compositions is due to the following recited mutual effects:

the added convenience of delivering the cleaning and disinfectancy benefits in one package. The residual properties result from a combination of low vapor pressure and high cidal efficacy of the antimicrobial actives associated with the compositions of the present invention. Those skilled in

As to the identity of the "antimicrobial actives associated with the compositions of the present invention", in the following paragraph on page 85 preferred such materials are set out:

US Serial No. 10/524377
Page 17 of 22

Preferred antimicrobial actives for residual benefits as delivered from a wet wipe or a dry wipe that becomes wet as a result of contact with a wet composition during the cleaning process, include Kathon®, 2-((hydroxymethyl) (amino)ethanol, propylene glycol, sodium hydroxymethyl amino acetate, formaldehyde, and glutaraldehyde, quaternary ammonium salts such as dioctyl dimethyl ammonium chloride, octyl decyl dimethyl ammonium chloride, didecyl dimethyl ammonium chloride, C12,C14 and C16 dimethyl benzyl (Bardac® 2280 and Barquat® MB-80 sold by Lonza), dichloro-s-triazinetriene, trichloro-s-triazinetriene, and more preferably tetrakis(hydroxymethyl) phosphonium sulphate (THPS), 1,2-benzisothiazolin-3-one sold by Avicia Chemicals, chlorhexidine diacetate sold by Aldrich-Sigma, sodium pyrrhione and polyhexamethylene biguanide at about 0.001% to about 0.1%, more preferably from about 0.005% to about 0.05%. The specific antimicrobial actives and combinations thereof are chosen so as to be effective against specific bacteria, as desired by the formulator. Preferably, the

Again from the foregoing it is clear to note that the currently claimed invention is not anticipated nor obvious in view of WO271.

Furthermore, the applicant points out that WO271 does not contemplate nor even remotely suggest compositions which exhibit antimicrobial efficacy following washing a substrate upon which the composition has been applied, but rather WO271 contemplates processes wherein its compositions are applied, and dried on surfaces. Indeed, nothing in WO271 demonstrates that its compositions provide or would be expected to provide a residual antimicrobial effect following a washing of the treated surface in the manner disclosed by the present applicant. Perhaps more pertinently as has been stated above, WO271's the "antimicrobial actives associated with the compositions of the present invention" do not anticipate the currently claimed composition.

Thus when a claim limitation is not explicitly set forth in a reference, evidence "... must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill." *Continental Can Co.*, 948 F.2d at 1268. It is not sufficient if a material element or

US Serial No. 10/524377
Page 18 of 22

limitation is "merely probably or possibly present" in the prior art. *Trintec Indus., Inc. v. Top-U.S.A. Corp.*, 295 F.3d 1292, 1295 [63 USPQ2d 1597] (Fed. Cir. 2002). See also, *W.L. Gore v. Garlock, Inc.*, 721 F.2d at 1554 (Fed. Cir. 1983) (anticipation "cannot be predicated on mere conjecture respecting the characteristics of products that might result from the practice of processes disclosed in references"); *In re Oelrich*, 666 F.2d 578, 581 [212 USPQ 323] (CCPA 1982) (to anticipate, the asserted inherent function must be present in the prior art).

It is believed that the Examiner has not properly made their case that the currently claimed invention is properly rejected as being anticipated under 35 USC 102(b) in view of the WO271 reference.

Accordingly, reconsideration of the propriety of the rejection and its withdrawal is solicited.

Regarding the rejection of claims 3 and 34 under 35 USC 103(a) in view of WO 00/27271 (hereinafter "WO271"):

The undersigned reminds the Examiner that the determination of obviousness under the standards set forth *supra*. For the sake of brevity, the applicant herein repeats the foregoing remarks entered above regarding the WO271 reference as being equally applicable to the current grounds of rejection.

As discussed previously, it is the applicant's view that the (a) scope of the recitation of *potentially* useful constituents recited by WO271 is so overly broad so as to be vague and wholly indefinite, such that (b) WO271 fails to render the currently claimed invention obvious. Absent a specific teaching or demonstration of the specific types of compositions presently claimed by the applicant, it is asserted that finding such compounds is the result of an inventive faculty and that the Examiner's assertions of obvious would be improper as being (c) the result of an impermissible 'hindsight

US Serial No. 10/524377
Page 19 of 22

reconstruction' of the applicant's claimed invention and/or (d) the possible result of impermissible "undue experimentation" in view of the WO271 reference. Significantly, WO271 fails to provide any demonstration, teaching or even the barest hint of suggestion that a combination of specific polymers and specific organic acids may form a complex which provide an antimicrobial benefit to hard surfaces which has both an immediate, as well as a more durable benefit. The WO271 reference also fails to indicate that more difficult to eradicate pathogens, such as *Rhinovirus* may be effectively eradicated by such a complex of an organic acid and polymer.

With regard to (d), it is the applicant's view that a skilled artisan faced with the WO271 and its myriad constituents, and armed with the appropriate level of skill in the relevant art would necessarily engage in an undue amount of experimentation to optimize any such formulation order to provide the specific properties which are currently claimed by the applicants. The many of variables and possibilities as a selection of constituents, the amount of constituents, the properties of these constituents, the final technical properties of the formed hard surface treatment composition, and the required properties of needing at least one or more of WO271's "antimicrobial actives associated with the compositions of the present invention" renders the currently claimed invention as being a nonobvious over the WO271 reference. The applicant asserts that the number and degree of alternative variables which might be gleaned from WO271 are such that WO271 provides no useful guidance as to their selection in order to produce the ultimate compositions which are now claimed by the applicants. Indeed, the applicant contends that the WO271 specification is a "hodgepodge" of various recitations of multiple compositions which is more akin to a chemical supply catalog which while listing broad classes of compounds or materials, yet does not necessarily identify or suggest which such compounds or materials may be suitably selected and used to provide the types of compositions providing the specific combination of specific polymers and specific organic acids may form a complex which provide an antimicrobial benefit to hard surfaces which has both an immediate, as well as a more durable benefit as only described in applicant's specification. Rather, the WO271 is substantially directed to a cleaning implement, and

US Serial No. 10/524377
Page 20 of 22

its recitation of virtually all known and possibly useful chemicals which might be applied by the cleaning implement, is akin to the type of disclosure provided by a chemical supply catalog (e.g., Aldrich, Sigma, etc.) Akin so such catalogs, while a chemical supply catalog which may list myriad raw materials, it provides little in the way of guidance as to producing any specific composition. Pertinently there is nothing in the WO271 reference which teaches a composition which meets the requirements of the present claims. The Examiner's attention is specifically directed to the newly presented claims. The applicant respectfully reminds the Examiner that the use of "hindsight" is still impermissible.

With regard to now (d) and (c), the Examiner's reading of the WO271 reference appears to rely in some part on a "hindsight reconstruction" using the applicant's specification describing their invention as a template. The present applicants believe that the Examiner does not meet the proper burden of proof to present and maintain a rejection under 35 USC 103(a) as outlined in M.P.E.P. Sec. 2143 and in the law. It is the applicant's view that the Examiner's rejection of the claims is in no small part based on a "hindsight reconstruction" of the applicant's invention which is based on a retrospective assemblage of the applicant's claimed invention wherein there lacks an appropriate teaching or suggestion. Such is impermissible. "Obviousness cannot be established by combining the teachings of prior art to produce the claimed invention, absent some teaching suggestion or incentive supporting the combination [...]" At best, in view of these disclosures, one skilled in the art might find it obvious to try various combinations of these known (scale and corrosion prevention) agents. However, that is not the standard of 35 USC Sec. 103" In *re Geiger* 2 USPQ2d 1276, 1278 (CAFC, 1987) See also *W.L. Gore & Associates, Inc. v. Garlock, Inc.* 220 USPQ 303 (CAFC, 1983);

Further, in *In re Fritch*, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1784 (Fed. Cir. 1992), the Federal Circuit stated:

US Serial No. 10/524377
Page 21 of 22

"It is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the prior art so that the claimed invention is rendered obvious. *In re Gorman*, 933 F.2d 982, 987, 18 USPQ2d 1885, 1888 (Fed. Cir. 1991). This court has previously stated that "[o]ne cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention." (quoting *In re Fine*, 837 F.2d at 1075, 5 USPQ2d at 1600)

It is the applicant's view that the prior art documents cited by the Examiner fail to meet the proper burden of proof, and that the presently presented claims should be allowed.


Accordingly reconsideration of the propriety of the rejection of the claims under 35 USC 103(a), and its withdrawal is respectfully requested.

Should the Examiner in charge of this application believe that communication with the undersigned will favorably advance the prosecution of this application, they are invited to contact the undersigned at their convenience.

Conditional Authorization for Fees


Should any further fee be required by the Commissioner in order to permit the timely entry of this paper, the Commissioner is authorized to charge any such fee to Deposit Account No. 14-1263.

Respectfully Submitted;



Andrew N. Parfomak, Esq.
Reg.No. 32,431
Norris, McLaughlin & Marcus, PC
875 Third Avenue, 18th Floor
New York, NY 10022

Tel: 212 808-0700



Date: